

US EPA ARCHIVE DOCUMENT

Institutional Drivers for Private Biodigester Investment

Biodigesters and Biogas Case Study Track
EPA Technology Market Summit



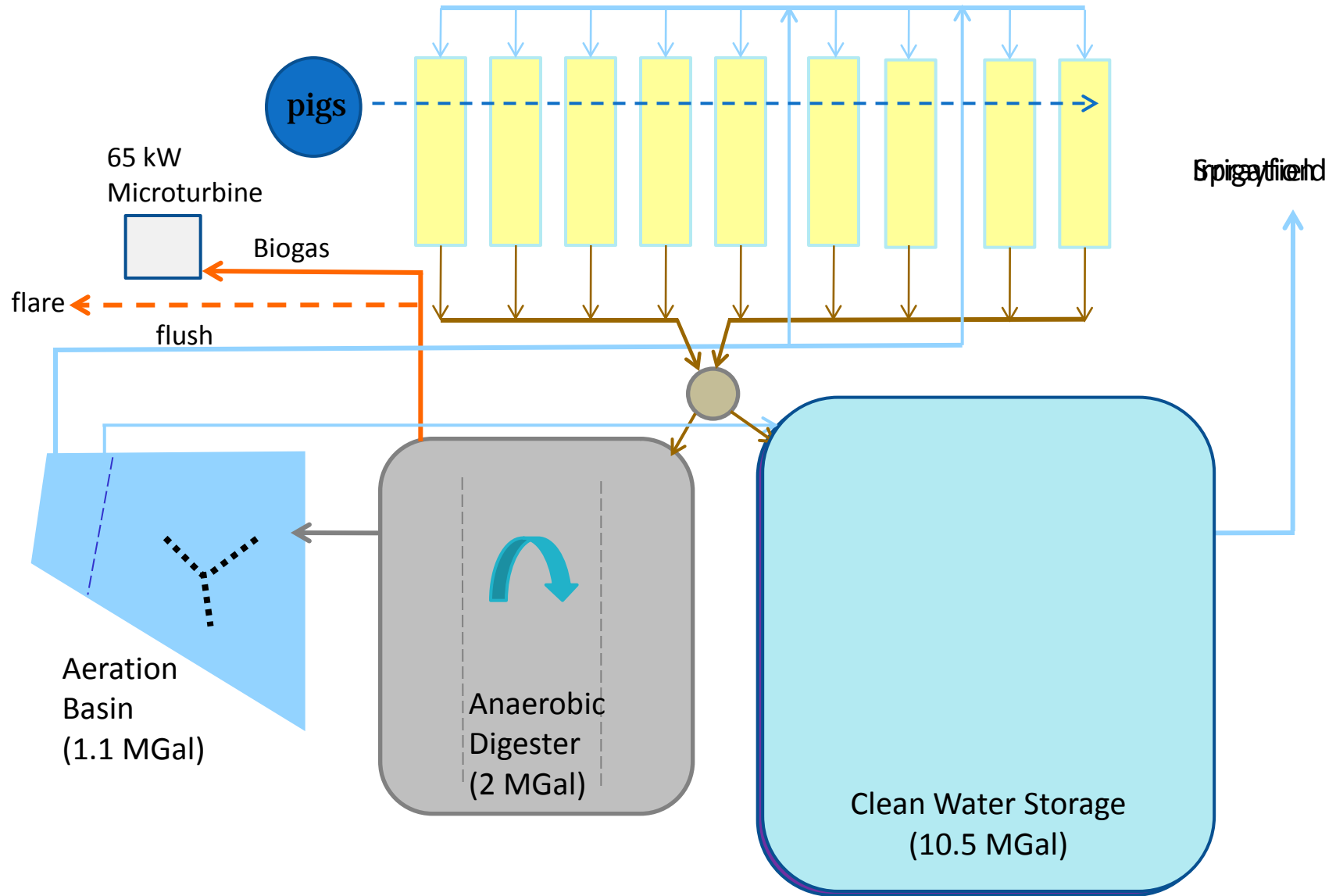
Tatjana Vujic
Duke Carbon Offsets Initiative
May 14, 2012

Lloyd Ray Farms: Anaerobic Digestion-based Innovative Swine Waste Management



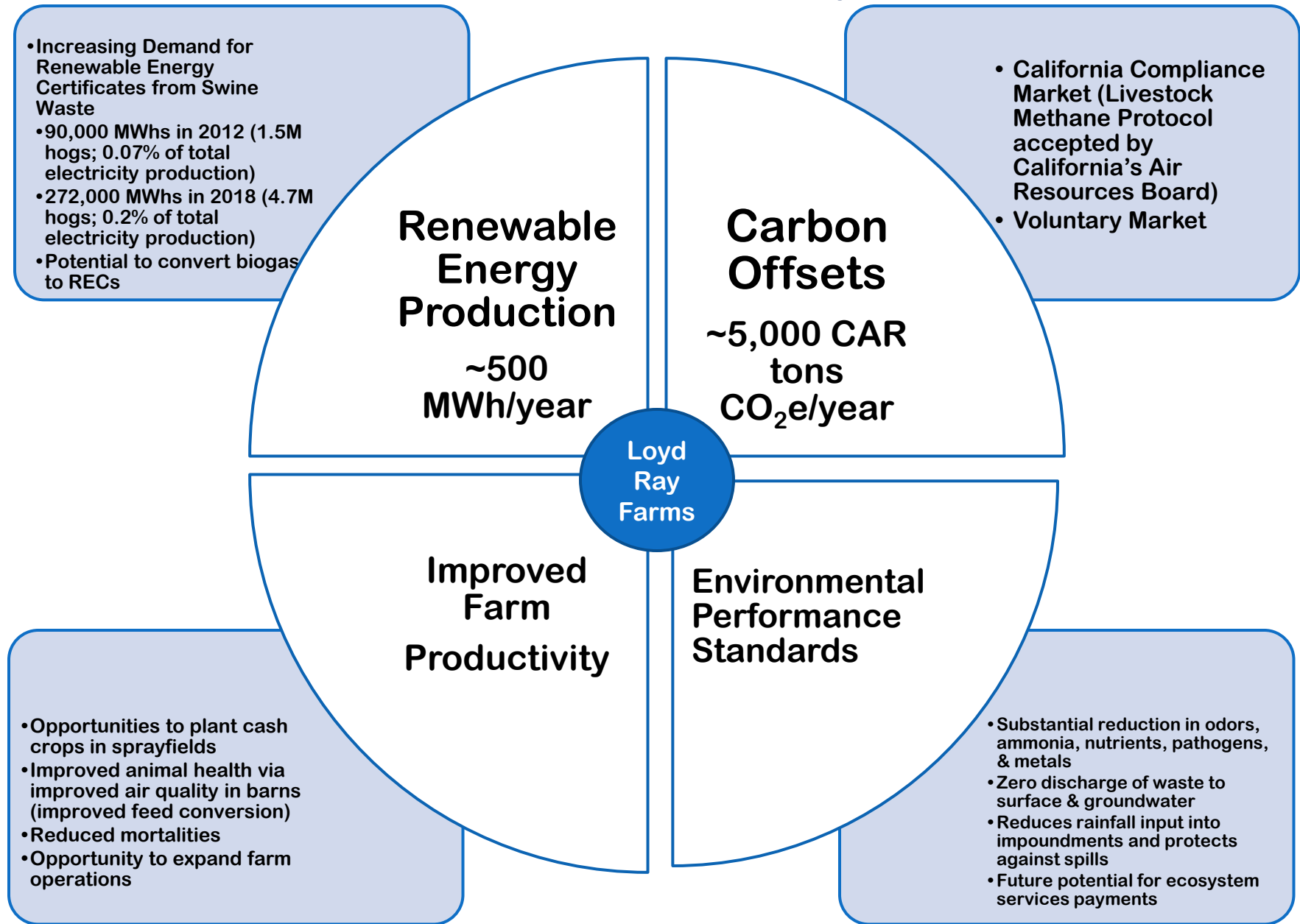
- 8,600-head finishing farm located in Yadkin County, NC
- Combined innovative animal waste management & electricity generation system; meets all NC environmental performance standards per Lagoon Conversion Program
- 1st AD-based System to be Permitted as an Innovative Waste Management System; 1st swine project to generate electricity under NC state REPS
- \$1.2M Construction Cost (\$500K in Federal & State funding)

Loyd Ray Farms System

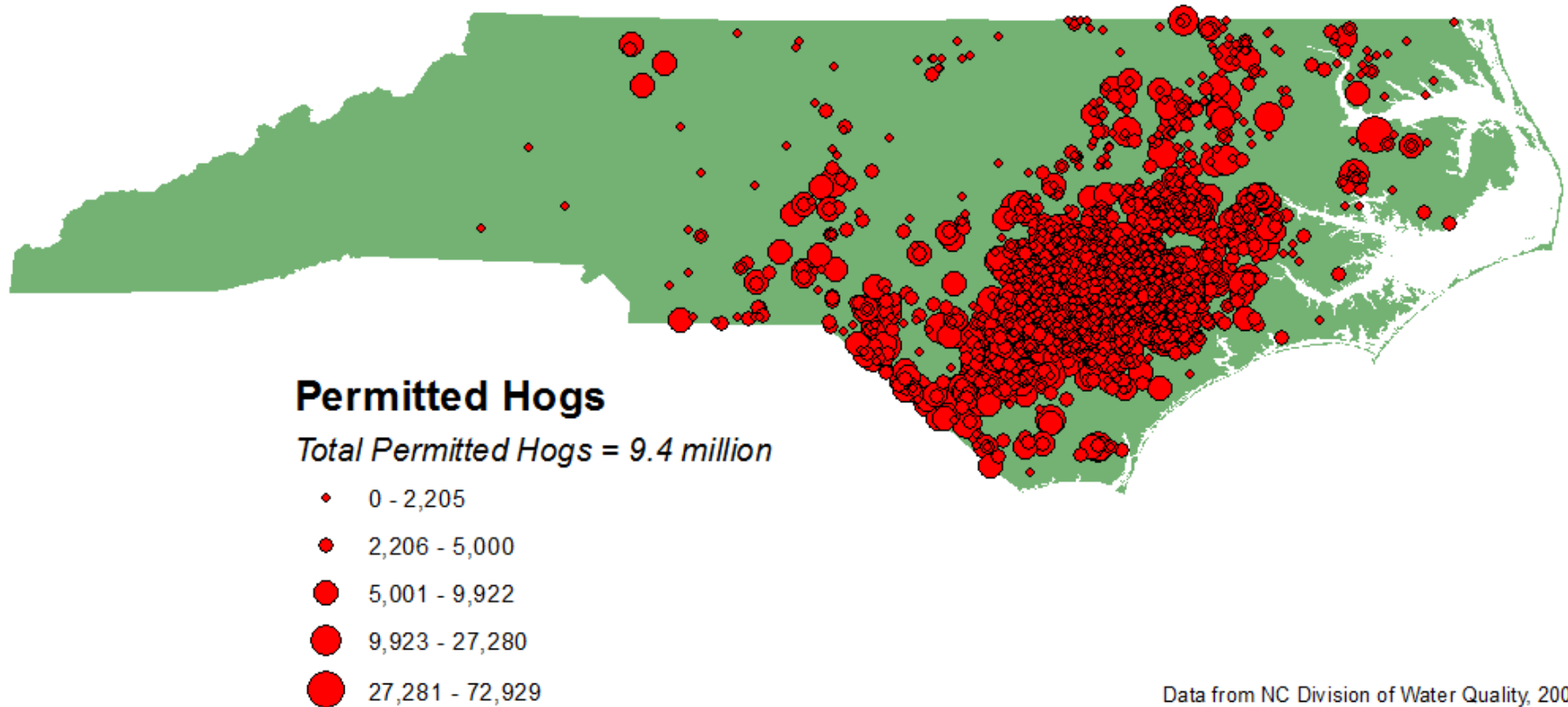


	ENERGY PRODUCTION/RECs	CARBON REDUCTIONS	NUTRIENT MANAGEMENT	FINANCING OPPORTUNITIES
DUKE UNIVERSITY	Preferred to create additional income streams; support operation of innovative waste management system	Voluntary Commitment to Climate Neutrality by 2024; seeking local offsets that yield significant co-benefits beyond carbon reductions; catalytic effect	Required per internal priorities to advance innovative waste management in NC	NC Lagoon Conversion Program NRCS Cooperative Conservation Partnership Initiative; Strong Incentive
DUKE ENERGY	Swine-waste set-aside in NC REPS; ratchets up from 90,000 MWhs in 2012 to 272,000 MWhs in 2018 (1.5M hogs to 4.7M hogs or 0.07 to 0.2% total electricity production)	Preferred	Preferred but not required for RECs*	\$1M annual R&D fund for REPS implementation; commercial contracts
GOOGLE	Preferred	Voluntary commitment to climate neutrality; seeking innovative projects that yield high-integrity offsets and leadership	Preferred per internal priorities	Preferred; Strong Incentive
PRODUCER	Reduces electricity costs; surplus electricity + REC production creates new income streams	Creates income stream	Required for LCP/CCPI; required for farm expansion; expands income-producing opportunities on-farm; protects vs. rain events	NC Lagoon Conversion Program NRCS Cooperative Conservation Partnership Initiative; Corporate Investors

Specific Outcomes and Future Economic Benefits - AD-based Innovative Swine Waste Management



North Carolina Potential



Summer 2012: DCOI + Nicholas Institute for Environmental Policy Solutions to Investigate Optimization Strategy for Swine-Waste Derived Biogas Delivery for Electricity & REC Production; consideration of co-digestion opportunities

THE DUKE CARBON OFFSETS INITIATIVE



For more information

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